

only their geological history elucidated, but their height above the sea-level and the depth at which their water-bearing zones can be reached are ascertained.

Much careful labour has been given to this research, and a Radiolarian zone has been met with in the Millwood series at the Bell River in Porcupine Mountain, and the North-pine Creek in Duck Mountain. Dr. D. Rust, of Hanover, will describe and figure these microzoa for the Geological Survey of Canada. Abundant Foraminifera occur in the Niobrara division; upwards of twenty species are enumerated, some of which have been named for Mr. Tyrrell by Mr. C. D. Sherborn, F.G.S., of London. There are also coccoliths and rhabdoliths. Prisms of *Inoceramus* in some cases compose the rock, and particles of oyster-shell and fragments of teeth and scales of fishes are also present. The Foraminiferal Niobrara limestone is underlain by the dark grey Benton shales, containing a large amount of bituminous matter, with flakes and crystalline masses of selenite. The sands and clays of the Dakota formation, or basal sandstone of the Cretaceous series throughout the district, lie unconformably on the eroded surface of Palæozoic limestones and shales.

MISCELLANEOUS.

A Test Case for the Law of Priority. By F. JEFFREY BELL.

It is now recognized by, I think, every student of Echinoderms that the tenth edition of Linnaeus's 'Systema Naturæ' is that which is to be cited. Those who, like myself, were content to accept the instructions of the British Association Code, were forced to adopt the more reasonable and general rule that the tenth edition, and not the twelfth, should be cited by the publication of Prof. Lovén's essay on the Echinoidea described by Linnaeus.

I make, then, my major premiss, "the tenth edition of Linnaeus is to be quoted."

My minor cannot be subject to discussion; it is the mere statement of a fact:—All the species placed by Linnaeus in the genus *Holothuria* in the work cited are pelagic Hydroids or Tunicates.

The conclusion is obvious: the generic name *Holothuria* must not be applied to any "Holothurian," which, as an eminent geometer remarked, is absurd.

This is not the first occasion on which strict adherence to logic has landed the dialectician in, to say the least, an untenable position. How shall one escape?

It will probably be told me that if I would only obey rules laid down for me by my betters I should not have got into this scrape.

Let us see. In the twelfth edition (1767) Linnaeus includes *frondosa*, *physalis*, and *thalia*, as well as others, in the genus—that

is, an Echinoderm, a Hydroid, and a Tunicate. Let us grant that, notwithstanding the existence of the tenth edition, which would indicate that an Echinoderm at any rate is not the type of the genus, "the evidence as to the original type of the genus is not perfectly clear and indisputable;" "then the person," says the B. A. rule, "who first subdivides the genus may affix the original name to any portion of it at his discretion."

The first writer *later than 1767* was Pallas, who writes (1774) (*Spic. Zool. s. v. Holothurium zonarium*):—

"Holothuriorum genus a Linnaeo ultima in editione *systematis* miro modo compilatum et a natura alienum factum est, quum tamen illud in *editione decima* systematis satis bene institutum videretur. Eoque magis miror hanc *Ill. Viri* levitatem, cum sole meridiano clarior esse debeat, cujus in studio Molluscorum initiatio, affinitas *Holothurii frondosi*, *Phantapodis*, *Hydrae Bohadschii*, atque *Hol. pentactis* (Syst. ed. xii. p. 1089. 1090. 1091. sp. 1. 2. 3. 8.) cum *Actiniis* Brownii, (genere etiam a Linnaeo adoptato, maximeque naturali) ad quod istas Holothurias Linnaeo nunc dictas plerasque dudum retuli in *Miscellaneous Zoologicis*. p. 153."

Holothurium zonarium is an Ascidian, and some other name must be found for Holothurians.

But it will be remembered that Brisson's genera are allowed by the B. A. rules; was there no contemporary of Linnæus who used *Holothuria* for an Echinoderm? Yes, there was Bishop Gunnerus (*Act. Stockholm*, 1767, p. 115), who discusses the characters of the genus *Holothuria*, and is quoted by Linnæus himself.

Yet again, if we accept the testimony of the Bishop, who wrote in 1767, we must accept that of Pallas, who wrote in 1766*, and who fully described and discussed *Actinia doliolum*. Now this is an Echinoderm, a Holothuroid, a Colochirus.

∴ *Actinia* is the correct generic name of a "Holothurian," and not of a Sea-Anemone.

Here, again, Euclid might be appropriately quoted.

So that, after all, obedience to the laws of the B. A. leaves us in a worse plight than before.

It is clear that two courses only are open here: one is to adopt Mr. Pocock's heroic but perfectly safe challenge to the skies, and enforce the changes required by strict adherence to the laws of priority; and the other is—if I, too, may quote from a Latin writer: "Spectatum admissi risum teneatis, amici?"—to avow a dislike to appearing foolish more often than one can help, and retain *Holothuria* and *Actinia* for groups to which they have been applied for more than a century.

To enforce the rule of priority here would be to strain it beyond breaking-point; where that point comes must, I suppose, be a matter for individual discretion; but in this case, I believe, zoologists will credit me with showing a little common-sense.

* *Miscell. Zool.* p. 152.